

III. AMENDMENTS TO THE CLAIMS: JC17 Rec'd PCT/PTO 16 JUN 2005

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original): A method of automated sample processing comprising the steps of:
establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;
inputting a plurality of desired sample process operations;
adaptably scheduling robotic sample process functions for an initial aggregated event topology;
commencing initial automatic processing, through operation of said robotic sample process functions, of said initial aggregated event topology;
altering at least one aspect of said initial aggregated event topology to create an altered aggregated event topology;
adaptably scheduling robotic sample process functions for said altered aggregated event topology;
interrupting said initial automatic processing of said initial aggregated event topology; and
continuing revised automatic processing, through operation of said robotic sample process functions, of said altered aggregated event topology.
2. (Original): A method of automated sample processing as described in claim 1 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the step of establishing an automated slide processing system.

3. (Original): A method of automated sample processing as described in claim 2 wherein said step of automatically processing at least one sample comprises the steps of:
arranging a plurality of slides on a carrier retainment assembly;
applying a reagent to said plurality of slides; and
automatically staining said plurality of slides.
4. (Original): A method of automated sample processing as described in claim 3 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the steps of:
establishing a plurality of automated slide stainers; and
electronically connecting said plurality of automated slide stainers.
5. (Original): A method of automated sample processing as described in claim 4 wherein said step of establishing an automated sample processing system comprises the steps of:
establishing a stand alone automated slide processing system;
utilizing a separate full function computer programmed to respond to said stand alone automated slide processing system; and
electronically connecting said separate full function computer to said stand alone automated slide processing system.
6. (Original): A method of automated sample processing as described in claim 5 and further comprising the step of establishing a local area network electronically connected to said automated sample processing system.
7. (Original): A method of automated sample processing as described in claim 4 wherein said step of adaptably scheduling robotic sample process functions for an initial aggregated event topology comprises the step of separately adaptably

scheduling robotic sample process functions for each of said plurality of automated slide stainers.

8. (Currently amended): A method of automated sample processing as described in claim 1 [[or 3]] wherein said step of adaptably scheduling robotic sample process functions for an initial aggregated event topology comprises the step of automatically creating a plurality of varied-parameter robotic control indicium, each for said same aggregated event topology.
9. (Currently amended): A method of automated sample processing as described in claim 1 [[or 8]] wherein said step of adaptably scheduling robotic sample process functions for said altered aggregated event topology comprises the step of automatically creating a plurality of varied-parameter robotic control indicium, each for said same aggregated event topology.
10. (Original): A method of automated sample processing as described in claim 9 and further comprising the step of accomplishing enhanced temporal scheduling of a plurality of sample process steps.
11. (Original): A method of automated sample processing as described in claim 10 wherein said step of accomplishing enhanced temporal scheduling of a plurality of sample process steps comprises the step of comparing said indicium.
12. (Currently amended): A method of automated sample processing as described in claim 8 [[or 9]] wherein said step of automatically creating a plurality of varied-parameter robotic control indicium comprises the step of automatically creating a plurality of varied-parameter robotic control indicium using a parameter selected from a group consisting of:
a substance priority parameter, a reagent grouping parameter, a robotic movement parameter, a sample location priority parameter, a sample proximity priority parameter, a sample insert time priority parameter, a user input parameter, a user

priority parameter, a sample time since last processing priority parameter, a time-based priority value parameter, and a sample weighting parameter.

13. (Currently amended): A method of automated sample processing as described in claim 8 [[or 9]] wherein said step of automatically creating a plurality of varied-parameter robotic control indicium comprises the steps of:
automatically creating a sample time since last processing priority parameter robotic control indicium;
automatically creating a robotic movement parameter robotic control indicium;
and
automatically creating a substance priority parameter robotic control indicium.
14. (Currently amended): A method of automated sample processing as described in claim 1, ~~3, or 8~~ and further comprising the step of not completing said initial automatic processing.
15. (Original): A method of automated sample processing as described in claim 14 wherein said steps of altering at least one aspect of said initial aggregated event topology to create an altered aggregated event topology and adaptably scheduling robotic sample process functions for said altered aggregated event topology are both accomplished while said step of initial automatic processing is occurring.
16. (Currently amended): A method of automated sample processing as described in claim 1 [[or 3]] wherein said step of interrupting said initial automatic processing of said initial aggregated event topology occurs while said step of initial automatic processing is occurring.
17. (Original): A method of automated sample processing as described in claim 16 wherein said step of interrupting said initial automatic processing of said initial aggregated event topology comprises the step of seamlessly interrupting said initial automatic processing of said initial aggregated event topology.

18. (Currently amended): A method of automated sample processing as described in claim 1, ~~3, or 8~~ wherein said step of adaptably scheduling robotic sample process functions for an initial aggregated event topology comprises the step of
19. (Currently amended): A method of automated sample processing as described in claim 1 [[or 18]] wherein said step of adaptably scheduling robotic sample process functions for said altered aggregated event topology comprises the step of creating an interspersial robotic control functionality.
20. (Original): A method of automated sample processing as described in claim 19 wherein said step of creating an interspersial robotic control functionality comprises the step of interleaving a plurality of process operations.
21. (Original): A method of automated sample processing as described in claim 19 wherein said step of creating an interspersial robotic control functionality comprises the step of sequencing a plurality of individual sample operations.
22. (Currently amended): A method of automated sample processing as described in claim 1, ~~3, 8, or 14~~ wherein said step of altering at least one aspect of said initial aggregated event topology to create an altered aggregated event topology comprises the step of altering the aggregate of said aggregated event topology and wherein said step of altering the aggregate of said aggregated event topology causes said steps of adaptably scheduling robotic sample process functions for said altered aggregated event topology and interrupting said initial automatic processing of said initial aggregated event topology to occur.
23. (Currently amended): A method of automated sample processing as described in claim 1, ~~3, 8, or 14~~ wherein said step of altering at least one aspect of said initial aggregated event topology to create an altered aggregated event topology comprises the step of altering the topology of said aggregated event topology and

wherein said step of altering the topology of said aggregated event topology causes said steps of adaptably scheduling robotic sample process functions for said altered aggregated event topology and interrupting said initial automatic processing of said initial aggregated event topology to occur.

24. (Currently amended): A method of automated sample processing as described in claim 1, ~~3, 8, or 14~~ and further comprising the step of sensing an operator access event and wherein said step of sensing an operator access event causes said steps of adaptably scheduling robotic sample process functions for said altered aggregated event topology and interrupting said initial automatic processing of said initial aggregated event topology to occur.
25. (Currently amended): A method of automated sample processing as described in claim 1, ~~3, 8, or 14~~ and further comprising the step of accepting a user change and wherein said step of accepting a user change causes said steps of adaptably scheduling robotic sample process functions for said altered aggregated event topology and interrupting said initial automatic processing of said initial aggregated event topology to occur.
26. (Currently amended): A method of automated sample processing as described in claim 1 ~~[[or 3]]~~ and further comprising the step of automatically prompting an operator action needed for said automatic processing to occur.
27. (Currently amended): A method of automated sample processing as described in claim 1 ~~[[or 3]]~~ and further comprising the step of repetitively automatically checking if an operator action is needed for said automatic processing to occur.
28. (Currently amended): A method of automated sample processing as described in claim 1 ~~[[or 3]]~~ and further comprising the step of providing real time status information relative to said automatic processing.

29. (Currently amended): A method of automated sample processing as described in claim 1 [[or 3]] and further comprising the step of providing pending sample information relative to said automatic processing.
30. (Currently amended): A method of automated sample processing as described in claim 1 [[or 3]] and further comprising the step of providing a real time completion estimate for an aspect of said automatic processing.
31. (Currently amended): A method of automated sample processing as described in claim 1 [[or 3]] and further comprising the step of mixing a substance for use in said automatic processing based on said steps of either adaptably scheduling robotic sample process functions for an initial aggregated event topology or adaptably scheduling robotic sample process functions for said altered aggregated event topology.
32. (Currently amended): A method of automated sample processing as described in claim 1 [[or 3]] wherein said step of establishing an automated sample processing system comprises the step of providing at least one substance in a lockable reagent retainment assembly and further comprising the step of providing said lockable reagent retainment element in a generally unlocked state.

33 – 58 (Canceled)

59. (Original): A method of automated sample processing comprising the steps of:
establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;
scheduling a plurality of sample process operations for a given aggregated event topology;
automatically creating a plurality of varied-parameter robotic control indicium, each for said same aggregated event topology;

comparing said plurality of robotic control indicium;
generating a preferred robotic control functionality; and
automatically processing at least one sample through operation of said robotic sample process functions and acting in accordance with said preferred robotic control functionality.

60. (Original): A method of automated sample processing as described in claim 59 wherein said step of automatically creating a plurality of varied-parameter robotic control indicium comprises the steps of:
automatically create a first control indicium for said aggregated event topology;
calculating a first resultant based on said first control indicium;
automatically create a second control indicium for said aggregated event topology; and
calculating a second resultant based on said second control indicium.
61. (Original): A method of automated sample processing as described in claim 60 wherein said step of automatically creating a plurality of varied-parameter robotic control indicium further comprises the steps of:
automatically create a third control indicium for said aggregated event topology;
and
calculating a third resultant based on said first control indicium.
62. (Original): A method of automated sample processing as described in claim 59 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the step of establishing an automated slide processing system.
63. (Original): A method of automated sample processing as described in claim 62 wherein said step of automatically processing at least one sample comprises the steps of:

arranging a plurality of slides on a carrier retainment assembly;
applying a reagent to said plurality of slides; and
automatically staining said plurality of slides.

64. (Original): A method of automated sample processing as described in claim 63 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the steps of: establishing a plurality of automated slide stainers; and electronically connecting said plurality of automated slide stainers.
65. (Original): A method of automated sample processing as described in claim 64 wherein said step of establishing an automated sample processing system comprises the steps of:
establishing a stand alone automated slide processing system;
utilizing a separate full function computer programmed to respond to said stand alone automated slide processing system; and
electronically connecting said separate full function computer to said stand alone automated slide processing system.
66. (Original): A method of automated sample processing as described in claim 65 and further comprising the step of establishing a local area network electronically connected to said automated sample processing system.
67. (Currently amended): A method of automated sample processing as described in claim 59, ~~61, or 63~~ wherein said step of automatically creating a plurality of varied-parameter robotic control indicium comprises the step of automatically creating a plurality of varied-parameter robotic control indicium using a parameter selected from a group consisting of:
a substance priority parameter, a reagent grouping parameter, a robotic movement parameter, a sample location priority parameter, a sample proximity priority

parameter, a sample insert time priority parameter, a user input parameter, a user priority parameter, a sample time since last processing priority parameter, a time-based priority value parameter, and a sample weighting parameter.

68. (Currently amended): A method of automated sample processing as described in claim 59, ~~61, or 63~~ wherein said step of automatically creating a plurality of varied-parameter robotic control indicium comprises the steps of:
automatically creating a sample time since last processing priority parameter robotic control indicium;
automatically creating a robotic movement parameter robotic control indicium;
and
automatically creating a substance priority parameter robotic control indicium.
69. (Currently amended): A method of automated sample processing as described in claim 59, ~~61, or 63~~ and further comprising the step of accomplishing enhanced temporal scheduling of a plurality of sample process steps.
70. (Currently amended): A method of automated sample processing as described in claim 59, ~~61, or 63~~ wherein said step of comparing said plurality of robotic control indicium comprises the step of accomplishing enhanced temporal scheduling of a plurality of sample process steps.
71. (Original): A method of automated sample processing as described in claim 69 wherein said step of accomplishing enhanced temporal scheduling of a plurality of sample process steps comprises the step of comparing processing time indicium.
72. (Original): A method of automated sample processing as described in claim 69 wherein said step of comparing said plurality of robotic control indicium comprises the step of comparing completion time estimates.

73. (Original): A method of automated sample processing as described in claim 69 wherein said step of comparing said plurality of robotic control indicium comprises the step of comparing substance cost estimates.
74. (Original): A method of automated sample processing as described in claim 69 wherein said step of comparing said plurality of robotic control indicium comprises the step of comparing sample priority assignments.
75. (Original): A method of automated sample processing as described in claim 59 wherein said step of automatically creating a plurality of varied-parameter robotic control indicium comprises the step of automatically creating an initial robotic control indicium, wherein said step of generating a preferred robotic control functionality comprises the step of generating an initially preferred robotic control functionality, and wherein said step of automatically processing at least one sample through operation of said robotic sample process functions and acting in accordance with said preferred robotic control functionality comprises the step of automatically processing at least one sample through operation of said robotic sample process functions and acting in accordance with said initially preferred robotic control functionality, and wherein said step of automatically creating a plurality of varied-parameter robotic control indicium thereafter comprises the step of automatically creating a second robotic control indicium, wherein said step of generating a preferred robotic control functionality thereafter comprises the step of generating a second preferred robotic control functionality, and wherein said step of automatically processing at least one sample through operation of said robotic sample process functions thereafter comprises the step of automatically processing at least one sample through operation of said robotic sample process functions and acting in accordance with said second preferred robotic control functionality.
76. (Original): A method of automated sample processing as described in claim 59 wherein said step of comparing said plurality of robotic control indicium

comprises the step of conducting a qualitative analysis of said robotic control indicium.

77. (Original): A method of automated sample processing as described in claim 76 wherein said step of conducting a qualitative analysis of said robotic control indicium comprises the step of conducting a qualitative analysis of said robotic control indicium using parameters selected from a group consisting of:
an amount of substance used parameter, a sample time under buffer parameter, and an extra amount of buffer used parameter.

78 – 158 (Canceled)